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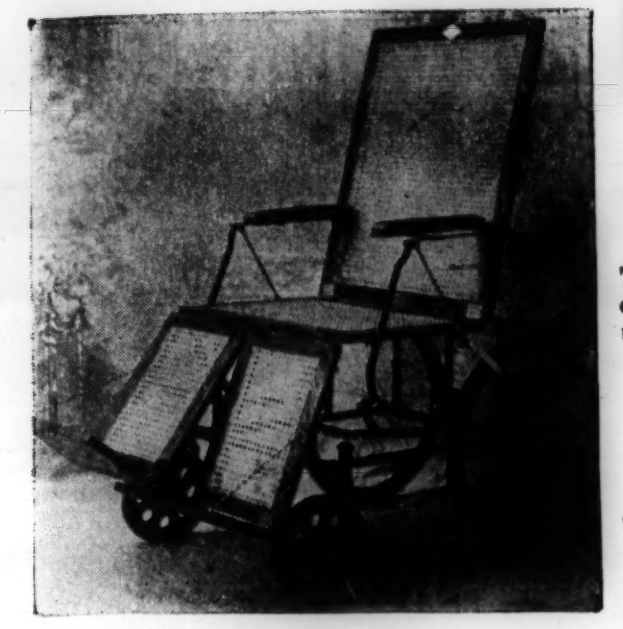
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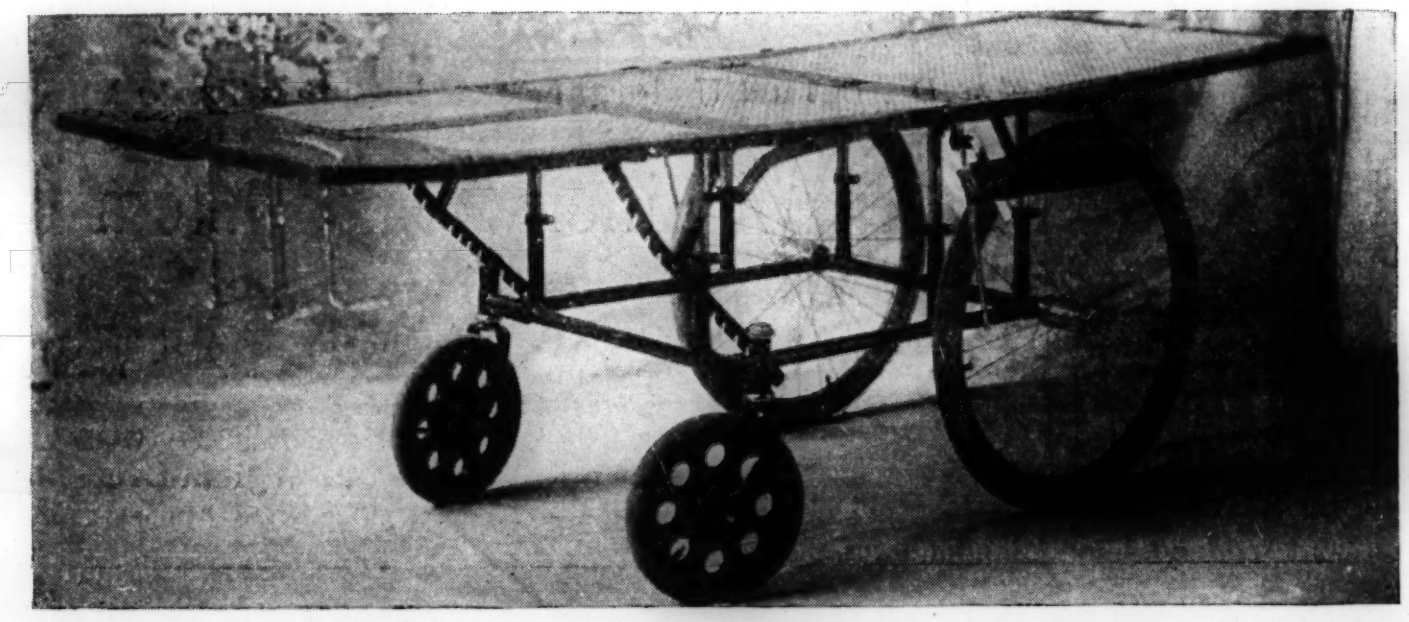
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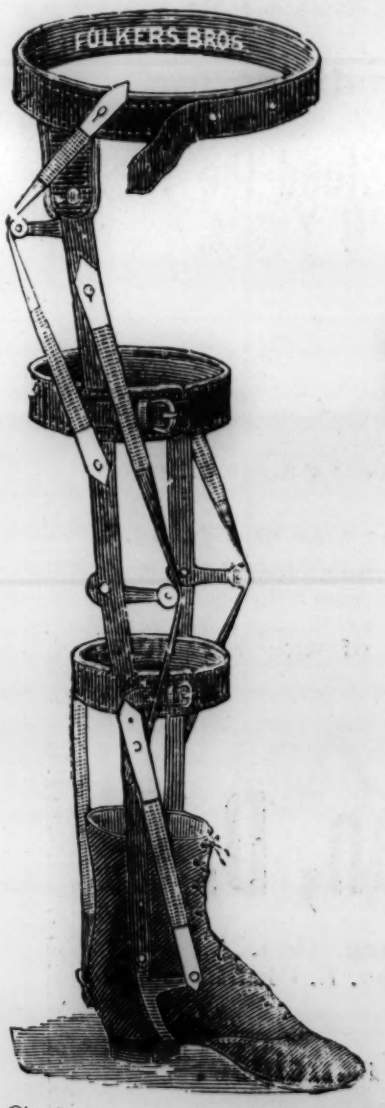
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Vol. XXII. SEPTEMBER, 1901. No. 9.

The Spirit of Evil.

M. H. LOGAN, PH. G., M. D., 10 GEARY STREET, SAN FRANCISCO, CAL.

Professor of Chemistry, California Medical College.

THE giant Hydrargyrum of the Tribe of Medicum, the embodiment of all lustful and evil passions, having come before the Judgment of the Quick and the Dead, was condemned. When rendered, the verdict appeared written in the clouds thus:

"I, Hermes, do cause thy flesh and bones to become the seed and soil for all forms of low mould and cryptogamic growth, and a home for all parasites of the animal and vegetable world. The toad-stool under which the low batrachian shall rest in the shade, the filmy fingers of mould and fungus within which all forms of microbes and baccilli shall thrive, swamps and cess-pools and dark stagnant waters, miasmatic places, and malaria, and the slime and the ooze shall be thy habitation. Thou shalt be the father and mother to them all, even to putridity and necrosis and death. Thy breath shall be as an exhalation from the tomb, for it shall be the decomposing of dead flesh, and thy presence shall be the bane of all mortal kind. They shall hide their face, close their nostrils and flee from thee as from pestilential death, for thou art the embodiment of pestilence. Thy spirit shall be more heavy than stone, yet quicker of movement than wind or lightning, and men shall call thee quicksilver. Thy bodily offspring shall inhabit dark, damp and shady places, the cave and cavern thy resort, serpents and lizards, spiders and bats, and all slimy creeping things for thy companions, for their flesh shall be thine own. Thou shalt inhabit the night, and the dead and dying underward, and all these shall be thy progeny. Verily, thine offspring shall be the hideous things and forms undivine, the dread of mankind. Thy spirit I will give an eternity of time amongst the rocks and stones, and solid dead dry crust of earth, and thus shalt thou wear out and overcome all the bad elements of thine evil nature. After ages, if thou desirest, thou mayest evolve to a better end."

Now, mercury being the heaviest spirit abroad, sank deep down into the earth, grasping here and there upon other elemental (souls). It held many

in bondage, such as sulphur, oxygen, chlorine, cynogen, iodine, bromine and others.

Sulphur, being light-hearted and plentiful, mercury fastened on to it like the Old Man of the Sea fastens on to his victims, and the result is red and beautiful to look upon. Men call it cinnabar, and gather it and use it for various purposes. This is a picture of it—"HgS". The Indians once used it for a red paint. It is the usual source of pure mercury, and is technically called mercuric sulphide. So tenaciously does mercury hold on to sulphur that it takes powerful heat to separate them. Great furnaces are constructed in which the cinnabar ore is roasted at a very high temperature, and the mercury is collected in large iron flasks. When mercury comes in contact with oxygen, it will unite in two proportions, mercurious oxide (Black Hg_20) and mercuric oxide (Red or bin-oxide Hg0). The first is used in making black-wash and the second is used in making yellow-wash, and sometimes taken internally. Mercury takes up with chlorine very rapidly, forming mercurous chloride (calomel, $HgCl_.$) and mercuric chloride (corrosive sublimate $HgCl^2$). The first is the much used and much absed liver regulator, the one medicine that has done more harm than all others together. The second is very poisonous, and is used in extremely small proportions as a powerful antiseptic. Mercury combines readily with iodine, forming mercurious iodide (protiodide, iodium flavum or yellow iodide HgI). This is given internally for a few of the more severe complaints in doses of $\frac{1}{10}$ to $\frac{1}{4}$ of a grain. Mercuric iodide (Biniodide, Red iodide, Hydrargi iodium, Rubrum HgI_2) small doses are sometimes used the same way as the mercurous.

Mercury will take up with nitrogen and oxygen together and form mercurous ($HgNO_3$) and mercuric Hg_2 (NO_3) nitrates. These are mostly used as reagents in chemistry. Sulphur and oxygen will be taken the same way, forming mercurous (Hg_2SO) and mercuric ($HgSO_4$) sulphates, also used mostly is arts and chemistry.

Mercury sometimes takes hold of other elements and compounds, but these are not common. A few of such are componds with ammonium, cyanogen, bromine, etc.

The pure mercury is sealed up in long glass tubes and used as thermometers. On account of its great sensativeness to slight changes of temperature, it is used to measure all climatic changes. Mercury occasionally attacks and enters other compounds; such is the dangerous poison, sulpho cyanide of mercury (HgCNS). When this is moulded into little cones with gum tragacanth they are called eggs of Pharoah's serpents. When they are ignited, they crawl out like live serpents; here again is mercury's spirituality objectified.

There are a great many simple compounds of mercury called binaries, and many where mercury takes several other elements. These are called ternary compounds. Mercury will sometimes drive elements out of combination, and take their places. If

permitted, mercury will overcome and dissolve the precious and many basic metals, forming alloys. Great heat will drive the mercury away, leaving the metal pure; advantage is taken of this in gold and silver mining. Don't get mercury on any metal jewelery, for it will soon form an alloy, and with it cause destruction.

If taken into the mouth pure, it will run through the bowels like shot down a trough. When its combinations are taken as medicines, it has the property of irritating all the glands of the system, causing a flow of saliva from all salivary glands. This is called salivation. It may also soften up all normal or abnormal tissues of the body.

Mercury is the only liquid metallic element known. When mixed with tin it forms the beautiful silvering on the back of mirrors and is put on by pressing clean dry glass into an amalgam of mercury and tin Sometimes ammoniacal silver solutions or platinum are used.

Astronomers expose large shallow basins of mercury as a mirror to reflect the sky, and in this way to study the stars. Electricians use it to coat the zinc in batteries, so that currents may be readily developed. In fact, mercury is a beautiful active powerful poison, and should be handled only after the advice of those who understand it.

Under the benign influence of that divine goddess, Intelligence, and her twin sister, Tolerance, much of the damage done in the past by the ignorant and indiscriminate use of salts of mercury as medicines is being overcome. Thanks to those Fathers of American Medicine—Thomson, Marrow, Newton, Jones, King, Howe, Beach, Scudder, J. R. Buchanan, Wilder, Lloyd and numerous others.

Another divinity is now taking part in the drama. The old faiths are fast falling away, for Evolution is giving us newer, milder and more certain methods in medicine. Although the Body of Evil with its myriads of unholy microbes and baccilli are still somewhat with us, the Spirit of mercury is fast disappearing, evaporating under the warm sunlit rays of reason. After so severe a judgment, Mercury became so sensitive as to flinch at any, even slight, changes of temperature.

So far as is known to-day, mercury holds no place in the human economy; hence, it is a foreign body when introduced, and the vital powers must be exerted to their utmost to overcome and expel it. This is one of the few elements that nature seemed to have overlooked, when she formed man, the microcosmos of the universe.

Palmar Abscess.

J. A. RILEY, M. D., ALAMEDA, CAL.
Lecturer on Pharmacology and Materia Medica California Medical College.

JUNE 24, 1900, I was called to attend an old lady who a few days previous had received an injury to thumb of right hand, and not having received proper attention at the time, infection was carried in. My diagnosis was pal-

mar abscess, it having advanced sufficiently to involve fascia of forearm.

Prognosis guarded. Assuring the family it would be a long drawn out affair limiting the duration not less than three months.

Securing assistance to administer an anesthetic, I made seventeen free incisions in hand and placis of forearm. Applied hot poultice of flaxseed and charcoal, but found pus was forming more rapidly under my treatment.

Resorted to per oxide of hydrogen and drainage, removing drainage every hour, and thoroughly washing with H_2O_2 full strength. I could see no abatement of pus; by this time two-thirds of forearm was involved. By that time I began to think that the man who said the palmar abscess was good for three months knew whereof he spoke.

Then I began to think for myself. I could see I had a trying case to contend with. Your text books give you practically nothing to go by. The case had now advanced to twentieth day. Realizing I had to do something heroic in order to save my reputation as a young doctor and up to date man, I began the think. Knowing lobelia was one of all things that would bring on complete relaxation in the human economy, why would it not work on micro-organisms? I resolved to give it a fair and impartial trial. So had the following prescription filled:

Spm. Lobelia.....℥ iv
Spm. Echafolta.....℥ iv
Aqua.Dut.....℥xvi
M Sig. Saturate strips of gauze and pack. Cover hand and arm with absorbent cotton and saturate.

Made the first application myself, so the nurse would have full instruction. This was 8;30 a. m. I called again at 5 p. m. My patient informed me she was getting better. She said: "I have had one and a half hours' good sleep; the first I have had in twenty days." I could see she was improving, and on dressing the hand I found quite a diminution of pus, and could see that lobelia and echafolta were doing the good work. Now I am quite sure if, at the time of making the seventeen free incisions in that hand and arm, I had taken an ordinary ice bag, filled it with the above fluid, and placed the hand and forearm in same, that inside of ten days I would have cured my patient. As it was, at the end of forty days I discharged patient cured; feeling comparatively well.

Throughout the forty days I administered small doses of aconite, as I find aconite a Sampson. It has the power of eliminating fear as well as reducing fever. The only impairment to hand was the thumb, in that I had made the incisions. Patient can now use her hand in writing and sewing. For a few months there was slight stiffness. She has full use of hand at present time. If any of my fellow practitioners have a palmar abscess to contend with make free incisions and emerse the hand in above solution and I am sure you will cure your case quicker than you can pick out treatment from your medical library.

In medicine the only criterion of value is actual results.

Aneurism of Abdominal Aorta.

P. F. BULLINGTON, M. D., OROVILLE, CAL.

Coroner and Public Administrator, Butte County.

ON May 26, 1899, I was notified that Jerry Evens, a man about fifty years of age had been found dead in bed in the Planters' Hotel, at Biggs, California.

An inquest was held on the remains and Dr. O. C. H. was called to inspect the body and give a professional opinion as to the cause of death. He said deceased had been a sufferer from heart disease for several years, and at times suffered severely, especially following his periodical debauches. Deceased had been on a spree for several days and was slightly intoxicated when last seen alive on the night of May 25th. He called on the doctor about nine o'clock that evening and said he wanted something done for the pain in his heart, whereon the doctor gave him a hypodermic of sulph. morphine (but my memory fails me as to the amount of the drug administered, but I believe ½ gr.). and as there was no relief the dose was repeated in an hour; deceased soon expressed a desire to go to bed, at the same time saying he was getting some easier. He was taken to the above hotel and put to bed for the night. About ten o'clock the next morning, as Evens had not come down for breakfast, the landlord went to his room and found him in a half sitting posture, cold in death, and from all appearances he had been dead several hours.

A post-mortem examination was made, and the heart was found to be enlarged, the walls of the left ventricle were attenuated, while the thoracic aorta was dilated to the size of ¾ inch hose, and its walls were thinned and weakened; no abnormalities in arterial arrangement were discovered

On passing to the abdomnial cavity an aneurismal tumor about three inches in diameter was found about the juncture of the phrenic artery with the aorta, pressing against the diaphragm, and lying to the left of, and partly in front of, the spinal column.

The aorta below the tumor and the common iliac arteries appeared smaller than normal.

A section of the aorta together with the tumor was removed for inspection, and on examination the tumor was found to be made up of many layers, similar to the structure of the bulb of an onion, and those layers were composed of very fine particles of matter resembling brick-dust to the naked eye, which we took for red blood corpuscles in a dried and agglutinated state.

As the tumor formed on the right side of the aorta, the blood supply for that portion of the body below the

tumor was forced through a narrow passage through the left side of the tumor, hence the layers above mentioned did not encircle the entire tumor, but like the cartilaginous rings of the trachea, passed around from one side to the other of the aortic opening, forming the dilatation.

The layer next to the blood current was of the color of blood, and of a mushy consistency; while each succeeding layer grew firmer in texture and lighter in color until the outside layer was reached, which was much lighter in color than the blood, and so dry that it could be crumbled between the fingers.

On the left side of the aorta just opposite the tumor was found a rupture—the walls of the aorta being very thin and friable at the point—through which the blood had escaped into the abdominal cavity, causing death.

The dilatation of the thoracic aorta was somewhat a puzzle to us until the aneurismal tumor was discovered, as one would naturally expect to find an aneurism nearer the heart than the one in this case.

A Few Thoughts Concerning Microbes.

OVID S. LAWS, M. D., LOS ANGELES, CAL.

In years gone by, I was puzzled with the questions as to which came into being first, the oak or the acorn, the bird or the egg. But having finally settled them, at least to my own satisfaction, I have of late, been wrestling with the microbe question. This seems, at the present time, to be the most absorbing question before the medical profession.

In view of this fact it might be proper to ask whether man was made for the microbe, or the microbe for man? The microbe certainly has the priority in the scale of being. For it was laying in ambush in the bloom of the "forbidden fruit." And when Eve bit it, she received a copious supply on her ruby lips, and doubtless passed them to Adam, when handing him the fruit which brought his downfall and *death* later on in the evening of the same bible day, which is a thousand years of our time.

I take it, then, that the microbe was made for man, as everything else was. The biogenic was on "the tree of life" to keep him well while he was good, and the pathogenic was on the "forbidden fruit" to kill him when he was bad. So in order to carry out the verdict Adam had to get out of the garden, and a permanent quarantine was estabilshed.

Thus you see I have tumbled right into the microbe swim. Not that I have a serum for sale or culture to inject.

I have not yet reached the practical stage of development in this field. I am simply looking around to see what others are doing, and comparing their

work with mine. In comparing statistics, I see no need of any change on my part. Our serum users claim to have greatly lowered the death rate in some diseases, diphtheria being one. But their critics say it is accounted for in the fact that cases of tonsilitis were formerly included which now are not. My treatment of diphtheria with our simple remedies according to specific indications has been so nearly uniformally successful that I shall be slow to adopt any other.

My first deduction then is, that if diphtheria *is* of microbic origin, there is no need of resorting to serums for their destruction when our simple specific treatment does it much more effectually. Another thought is that possibly the microbe origin of disease is only a passing "fad" and is liable in a few years to give place to some other.

Again, the fact of finding bacilli in tuberculous matter, does not prove that they caused the tubercle. I suspect that they are merely scavengers, and break down accumulations of dead matter, so it can be thrown out of the body by the regular channels of excretion. Also that they assist in removing worn out material, by separating it from the new, and that specific medicines co-operate with them in thus ridding the system of useless matter which, if retained, would soon prove harmful. This is what we mean by assisting Nature. Then if that is a fact, when we destroy the microbes we are making war on Nature's workers.

The serum injection business is simply carrying out the allopathic notion of Paracelsus. He created a mercurial disease to drive out the other. The serum therapist puts in a culture to drive out its stronger progenitor, or break him down by intermarriage with his cultured relatives. But specific medication steps in to assist Nature, and refuses to bombard natural forces with materials that would endanger life in a well person. This must suffice on this line of thought, and I will close by giving a case in practice to illustrate some of the perplexities of thought we have to untangle, if we accept the microbe origin of pneumonia. Mr. L— went to bed in usual health one night not long since. The weather was warm, and he lay close to a window that was closed only by a wire screen. His right side was towards the window. That night there was as heavy a fog as California can produece. The next morning Mr. L—had fever, cough, pain in chest on the right side, and all the indications of what we call pneumonia in the right lung. The trouble was soon controlled by the use of bryonia, aconite, lobelia and veratrum; and on the fourth day a 2x trituration of tartrate of antimony, to cause free expectoration.

If the pneumococcus was there, these completely silenced him, and on the eighth day the patient was discharged. Please tell me how the pneumococcus got to the right lung, and why not to the left? Did he ride in on the fog and dart through like an X-ray? Or was he inhaled with the fog? If the latter, why did they all go to the right side? Perhaps they have a leader like a flock of sheep, and all follow the leader or

break their necks trying. This paper was not intended altogether for fun, but it seems difficult to view the microbe question seriously, and enter into that feverish terror that seems to have seized a large portion of our medical men, whose lives are wholly devoted to a warfare on our diminutive foes. I wonder how the human race managed to escape extermination before the microscope discovered these mysterious invaders of our anatomy?

My reflections upon the mysterious movements of the pneumococcus in the case of Mr. L— reminded me of a stanza by Cowper in regard to the Creator. I will close by giving the stanza, changing a few words to make it fit our case. It is perfectly plain that the fog had much to do in bringing on that attack of pneumonia, and by giving the microbe due credit, our stanza would run thus:

"He moves in a mysterious way,
The vital force to clog;
He plants his footsteps on the sea,
And rides upon the fog."

Septic Infection.

J. M. HICKS, M. D., CHICO, CAL.

I WISH to offer the following treatment for septic infection resulting from introduction of septic matter into the tissues through external wounds. I have seen it fully tested and consider it the most effectual method of treating septic poisoning.

First, thoroughly cleanse the wound from septic matter. If pus has formed in other parts of the inflamed tissues evacuate it by free incision. Don't be content with making a little stingy incision, but make it long and deep enough to permit a free escape of the pus and a thorough washing of the cavity. After a thorough cleansing with undiluted hydrogen per-oxide, flush with hot bi-chloride solution (1—2000). Loosely pack the wound and incisions with iodoform gauze. Then with a spatula or knife spread hot Dehydratine a quarter of an inch thick over all the surface presenting redness or swelling, and more—let it extend some distance beyond the border of the inflamed area. Cover the Dehydratine with a layer of cotton (not too thick) and cover the cotton with two thicknesses of cheese cloth. Carry the cloth entirely around the part, and with a big needle and strong thread, sew the ends together, drawing the band up snugly so as to produce firm (but not painful) uniform pressure. This application subdues the pain to a great extent, often completely. A fresh application should be made every twelve to twenty-four hours, taking care each time before reapplying, to wash the skin clean and treat all pus-yielding recesses as at first. (Read directions accompanying the package of Dehydratine.)

The constitutional treatment consists

principally in giving a half drachm or drachm of Sp. M. echinacea every two hours; a diet nutritious and easy of digestion; proper attention to the bowels; the administration of indicated heart stimulants. To allay persistent pain and restlessness, Papine is the king of remedies that I have used, and no bad results follow its moderate use. A teaspoonful or two from one to three times in each twenty-four hours is about the adult allowance. It is also useful in assisting to control the bad diarrhea present in some of these cases. I recently cured the worst case of blood poisoning I have ever seen with the above treatment. Doubtless many practitioners employ a similar treatment, and I do not claim that there is anything new about the method, and am aware that "there are others" which may be as good and possibly better. But it is certainly an excellent treatment, and it is with the hope it will be useful to some one that I write of it.

The Viability of the Bacillus Pestis.

M. J. ROSENAU, PAST ASSISTANT SURGEON, DIRECTOR HYGIENIC LABORATORY, MARINE HOSPITAL SERVICE.

THERE are many factors that influence the life of the bacillus pestis in the outer world. Some of these influences, such as temperature, moisture and light, are well understood. The bacillus withstands drying very badly. It can not live long in the direct, warm sunshine. High temperatures are invariably fatal.

In the light of these experiments and the published work of others we have to modify considerably our views upon the viability of the bacillus pestis. It does not always and under all circumstances die in so short a time as a few days, as the work of Kitasato and Wilm first indicated. We now know that the organism may live for months, and even years, in a test tube, on a moist albuminous medium. And the present work shows that even when dry it may live over four months, provided the temperature is cool—less than 20° C.

The bacillus of plague can in no sense be considered a tender organism, as was at first supposed. It is much easier to cultivate than the lanceolate coccus of pneumonia or the pathogenic streptococci. In this respect it resembles more closely the the hardier of the hemorrhagic septicæmic group

In this laboratory we have worked with the organism from seven sources: from Djiddah, Oporto, Rio de Jeneiro, Bombay, the New York Quarantine case, Glasgow and San Francisco. We find that all these seven varieties thrive well on artificial media under the usual laboratory conditions.

We tested the life history of this

organism upon a great variety of objects and under various conditions. We attempted to imitate nature. But we can not imitate all the conditions under which the organism may exist in nature, and we ought not, therefore, to apply the experience of the laboratory too literally to the life history of the plague bacillus outside of the body. We may determine with fair certainty the length of time the bacillus may live under given conditions. But these conditions are more or less arbitrary, and to a certain extent artificial. In general terms, we can state whether it is a hardy organism, resistant to influences usually detrimental to bacterial life, or one that loses its virulence and dies quickly when removed from its natural habitant.

The bacillus of plague does not exist in nature on sterile glass cover slips, nor yet in the desicator over concentrated sulphuric acid, which were conditions used by some authors who have reported their results on this question.

It is also necessary to call attention to certain conditions which obtained in most of these experiments, that are very far from the usual state of affairs.

The test objects were very abundantly inoculated with a pure culture of the bacillus pestis of known activity and virulence. Often the test objects were saturated. The cultures had been grown for a long time upon artificial media in the laboratory, so that their vitality was probably strongly influenced. It is a well-known fact that virulent pathogenic bacteria may at first grow very poorly upon the ordinary laboratory media, but by successive cultivation they become accustomed to the new conditions, so that they finally thrive abundantly; that is to say, they take on a sort of saprophytic existence. Such cultures would doubless resist the various influences to which they are exposed in laboratory tests better than another race direct from the blood or tissues. In fact, it is found that the plague bacillus in the blood and tissues from a rabbit usually dies out rather quickly when dried upon the test objects. On the contrary, bouillon cultures dried on similar objects and under similar conditions live a much longer time.

Another departure from normal conditions was the fact that all the test objects receiving the abundant inoculations of the virulent pure cultures were sterile. In other words, not only were cultures of the bacillus used that were accustomed to a saprophytic existence, but these cultures were placed on sterile test objects and protected against contamination, so that they were relieved from that microbial symbiosis which, in the economy of nature, plays so important a part in the suppression of pathogenic micro-organisms. It is known that in organic mixtures the hardier saprophytes tend to overpower the bacillus pestis. This even occurs to a certain extent in the blood and buboes of patients sick of the disease, as well as in dead organic infusions. The bacillus pestis is not known to have synergists among the lower forms of life. But that such exist may well be inferred from analogy.

Further, different races of the

plague organism have different powers of resistance to unfavorable influences. Some races of plague are hardier than others, just as some races of mankind are hardier than others. Batzeroff states, "There undoubtedly exist varieties that attenuate very quickly and die outside the living body in a relatively short time. There are other varieties that retain their viability under similar conditions a long time." Bacteria show quite as strong a tendency to adaptability as the higher animals. They may become accustomed to influences by a gradual survival of the fittest so that they finally resist conditions that would be fatal to the parent stock.

All these facts must be borne in mind in drawing conclusions from laboratory experiments.

PLAGUE AND FOOD.

Our experiments show that food products may harbor the infective principle of plague, but according to experience food products are not much to be feared as far as their probability of carrying the infection is concerned. This latter statement does not apply to milk and its products, for milk is a good culture medium for the bacillus pestis; and we kept it alive seventeen days in cheese and seventy-two days in butter.

On the surface of food products it usually died very quickly. It did not live twenty-four hours on orange peel. We had similar results with figs and raisins and a large quantity of Chinese food products, such as smoked and dried ducks, dried oysters, dried cuttle fish, dried ducks' gizzards dried and placed in oil, smoked and dried pork, and duck eggs preserved in a mixture of mud and rice chaff, all of which were infected with the bacillus pestis and kept at 37° C.

In rice we found it alive eighteen days after inoculating.

These results correspond with all our other experiments, which plainly prove that the bacillus can not live long on the surface of objects, when dry, at temperatures above 30° C. These results are also in accordance with the clinical and pathological facts, for cases of plague that have their origin in the alimentary tract are comparatively rare, and the spread of the disease has not, as far as I am aware, ever been clearly attributed to food products.

However. tonsillar and intestinal forms of the disease have been recorded, and these cases may be due to the fact that the bacillus can live in milk, butter and cheese, and similar moist albuminous media, as well as in water (*vide infra*) a long time.

PLAGUE AND WATER.

Plague is certainly not a water-borne disease, although we find that the plague bacillus can live a long time when abundantly inoculated into water containing a trace of organic matter. In one case we kept it alive one hundred and sixteen days, and in another ninety-six days, in water preserved at low temperatures, 17° to 10° C. Under the same conditions the organism lived only six days at 37° C.

In these experiments the water was

sterile and abundantly inoculated with a vigorous culture and carefully preserved from contamination in the dark. In nature the water certainly would not be sterile, the effect of sunlight and dilution would play an active part to diminish its vitality and infective power.

THE EFFECT OF TEMPERATURE.

The effect of temperature upon the bacillus pestis is very remarkable. That it is very sensitive to slight changes. In fact, temperature seems to be the most important factor in the viability of the organism. It may be kept alive and virulent a very long time in the cold, even though dry, but it can not live long when dry at the temperature of the body. High temperatures, such as 70° C. or more, are invariably fatal in a few minutes. All the published experiments agree upon the influence of temperature upon this microbe. It was this that led some of the early workers to conclude that they were dealing with a frail organism. It is frail when dried at 37° C., but may live for months in the cold. We have never been able to keep it alive more than a few days when dry at 37° C.—three days in flannel, two days in sponge. On the contrary we had little difficulty in keeping it alive on a variety of objects three and four months at 17 to 19° C.

The bacillus is not as sensitive to temperature when kept moist, for under such conditions it will live a very long time in albuminous media at 37° C.

PLAGUE AND COLD WEATHER.

From the experimental studies with the plague bacillus we would infer that the endemic foci of plague should be in cold climates. The organism dies so rapidly when dried at temperatures above 30° C. that we would not expect the disease to be very tenacious in the Tropics. This supposition is only partially borne out by the facts. A certain number of the endemic foci of plague are in a very rigorous climate. Such in particular are the regions of the Garwhal and of Kumaon, where the disease came from the snow-capped Himalayas. In the Transbalkan districts the average temperature in winter is 20° C. In Mongolia the climatic conditions are similar. At Vetlianka during the epidemic of plague in 1878–79 the temperature was 12° C.

PLAGUE IN THE TROPICS.

Netter states in his "La Peste et son Microbe" that the disease has never invaded the regions where the temperature is tropical, and he notes its disappearance in Egypt with the summer. This statement would be a confirmation of the fact that the organism does not as a rule live outside of the body very long at temperatures 37° C. and over. But there are other ways of spreading the disease that must be taken into account, such as the direct contagiousness of the pneumonic form of the disease through the coughing, etc., of the plague-laden sputum; also by the means of fleas and rats. This may account for the existence and spread of the disease in such hot countries as the Bombay Presidency,

Manila, the Island of Mauritius, Rio de Janeiro, and Santos, all of which are in the Tropics and suffer with tropical heat.

THE EFFECT OF MOISTURE.

Moisture is a definite factor in the viability of the bacillus pestis. The organism must have moisture to grow, and it may remain alive and virulent a very long time in the presence of moisture.

It usually dies quickly when dry. However, this is not invariably the case. We have been able to keep it alive in media such as dried albumin for one hundred and twenty-five days, when it was still virulent for mice. But to be kept alive when dry the organism must be cold, i. e., exposed to a temperature less than 20° C.

In no instance could the organism be kept alive when dry at a temperature of 37° C. for a few days.

EFFECT OF SUNLIGHT.

Our experiments confirm those of other workers in this field, who find that for the most part the bacillus pestis soon dies when exposed to bright sunlight. Our work leads us to the conclusion that the heat as well as the sunlight plays an important role; also that the effects of the sunlight do not penetrate very deeply. It is therefore safe to say that objects may be efficiently disinfected on the surface by exposing them all day to a bright sun, providing the temperature in the sun is above 30° C.

PLAGUE IN THE SOIL.

The plague bacillus was kept alive a long time in moist garden earth, especially when kept cool. It dies very quickly in dry earth. We were not able to keep it alive longer than twenty-four hours at any temperature in dry earth.

As moist earth will preserve the life of the bacillus it is easy to understand how the infection may live in dirty dwellings. It requires no stretch of the imagination to understand how the infection may be conveyed by the dirt and dust of moist, sunless habitations.

PLAGUE ON NEW MERCHANDISE.

We have not succeeded in keeping plague alive very long when dried upon the surface of objects; even on plush, carpet, paper, wood, sawdust, bone, etc., it usually dies within a few days. In porous substances such as sponge we found it alive after one hundred and twenty-five days, when allowed to dry, at 19° C. Here, again, temperature plays an important roll, for at 37° C., all the other conditions being the same, it lived only two days.

It is therefore very unlikely that new merchandise would be so contaminated as to carry the infection of the disease, especially in hot weather.

PLAGUE IN CLOTHING AND BEDDING.

The bacillus of plague lives long in albuminous matter. Clothing and bedding are especially apt to be contaminated with the discharges from buboes and blisters, sputum, etc. Articles so infected and kept in a cool, moist place could retain the active infective principle a very long time. Our work shows plainly that clothing and bedding may harbor the bacillus of plague

for months. In one instance we kept it alive on a piece of crash ninety-seven days; in albumin gelatin balls one hundred and twenty-five days; in sponge, also, one hundred and twenty-five days; in wood fifty-two days.

PLAGUE IN THE MAIL.

According to our results the plague bacillus can not live long in letter mail. In seven tests made with cultures of the organism on paper we found that it usually died within twenty-four hours. At most it kept alive eight days on paper allowed to dry, and fourteen days on paper kept in a moist atmosphere. To live this long it must be kept cool, for, just as in all other experiments, it died very quickly when dried at the body temperature. We had similar experiences with plague blood on paper. Letter mail is therefore not apt to carry the infection of plague a long time especially in warm weather.

VIABILITY AND VIRULENCE.

The bacillus pestis often loses its virulence before it dies. In many of our experiments we found that the time came when the organism grew in buillon, but lost its pathogenity for animals. This is an important fact from an epidemiologic standpoint, for an attenuated plague bacillus is probably harmless to man, even though its virulence can be increased by artificial means in the laboratory.

GASEOUS DISINFECTANTS FOR THE PLAGUE BACILLUS.

The experiments conducted in this laboratory plainly prove that either sulphur dioxide, when moist, or formaldehyde will kill the bacillus pestis when applied in the strength and methods usually employed for these gases as disinfecting agents. In order to be effective there must be direct contact between the gas and the germ. In other words, these gaseous disinfectants can only be depended upon as surface disinfectants.

In laboratory Bulletin No. 3, on "Sulphur dioxide as a germacidal agent," Geddings found that 4.25 per cent of that gas for twenty-four hours' time invariably kills the bacillus pestis on the surface.

My own work with formaldehyde (soon to be published) shows that the plague organism is as susceptible to this germicidal agent as other non-sporebearing organisms. Any of the standard methods for evolving the free formaldehyde gas are applicable.

As far as practical disinfection for plague is concerned, it may be mentioned here that sulphur dioxide is probably a much more useful agent for use in ships, stores, houses and dwellings infested with vermin, because it is destructive to the higher forms of animal life, whereas formaldehyde fails to kill mammals and insects with the same certainty that it kills microbes. In combating plague it is very important to kill the fleas, rats, mice and other forms of animal life capable of carrying the infection. Sulphur has this power, which formaldehyde totally lacks.

CHEMICAL DISINFECTANTS FOR THE PLAGUE BACILLUS.

The bacillus of plague shows no special peculiarity in its relation to

chemical disinfectants in solution. We have found the following ordinary disinfectants to have very marked aseptic powers.

Solutions which prevent the growth of the bacillus pestis.

Bichloride of mercury and hydrochloric acid	1 to 50,000
Bichloride of mercury	1 to 25,000
Formalin	1 to 25,000
Carbolic acid (pure)	1 to 380

THERMAL DEATH POINT.

We had abundant opportunity in our work in making Haffkine prophylactic in demonstrating that a temperature of 70° is invariably fatal in a short time.

PLAGUE EXPOSED TO SUNLIGHT.

Plague when exposed directly to bright sunlight died quickly. Even in a piece of sponge it could not live an hour in the bright sunlight of a Washington day in the month of May. When exposed more directly on the surface of objects it died within half an hour.

The sun, however, could not penetrate small pieces of plague spleen in five hours.

CONCLUSIONS.

1. The bacillus pestis is not a frail organism. It resembles the hemorrhagic septicæmic group of the coccobacilli as far as its viability is concerned.

2. Temperature is the most important factor of the viability of the plague bacillus. It keeps alive in the cold, under 19 C., a very long time. It dies quickly, especially when dried, at the body temperature, 37° C.

3. Moisture favors the life of the bacillus pestis. It usually dies in a few days when dry, even in the presence of albuminous matter, provided the temperature is above 30° C. It may keep alive and virulent when dry for months in the cold, under 19° C.

4. Sunlight kills the organism within a few hours, provided the sun shines directly upon the organism and the temperature in the sun is over 30° C. The effect of the sunlight is not very penetrating.

5. The virulence of the bacillus pestis is often lost before its vegetability.

6. It is unlikely that new dry merchandise would carry the infection. The organism usually dies in a few days on the surface of objects such as wood, sawdust, bone, paper, etc.

7. Clothing and bedding can harbor the infection for a long time and may act as fomites. The bacillus lives for months when dry in albuminous media at temperature under 20° C.

8. Food products may carry the infection of plague. The bacillus lives a long time in milk, cheese and butter. It usually dies quickly on the surface of fruits and prepared foods.

9. The organism may live a long time in water, although plague is not a water-borne disease.

10. The plague bacillus does not live long on paper, and first-class mail is therefore not apt to convey the infection.

11. The colder the climate the greater the danger of conveying the infection on fomites—clothing, bedding, food, merchandise, etc.—and more extensive disinfection is required in such a cli-

mate in combating the disease than in tropical regions.

12. The plague bacillus is destroyed by sulphur fumigation and by formaldehyde gas in the strengths in which these disinfectants are usually employed. The gases can only be depended upon as surface disinfectants. In disinfecting ships, warehouses, dwellings and other places infested with rats, fleas and vermin, sulphur is better than formaldehyde, because formaldehyde gas fails to kill the higher forms of animal life.

13. A temperature of 70° C. continued a short time is invariably fatal for the plague bacillus. The ordinary antiseptics are all efficacious in their usual strength for nonspore-bearing organisms. Efficient surface disinfection may be accomplished by exposing objects all day to the direct sunshine on warm days. The temperature in the sun must be above 30° C.

SURGERY

Edited by GEO. G. GERE, M. D., Parrott Building, San Francisco, Cal.; Prof. of Principles and Practice of Surgery, California Medical College.

Fractures of the Major Bone Shafts.

Summary.

First.—Let it always be borne in mind, that in fractures of the bone shafts, the nearer they are located to the joints, the more serious the character.

Second.—When complicated by a subluxation, or when a fracture extends into the articulation, troublesome complications are quite certain to follow in a large proportion of cases. In this class the osseous lesion may be unimportant as contrasted with the change to the arthritic structures, the large blood vessel or the nerves.

Third.—The symptoms of joint fractures are not unequivocal, as there are no special characteristic features in the pain of luxation, sprain or fracture; nevertheless, as a rule, after reaction sets in, the acute suffering is greater in joint than any other fracture.

Fourth.—The definite diagnosis of the precise position and quality of either an intra or extra-articular fracture, when there is doubt, is often difficult, and sometimes impossible. In cases without displacement of the fragments, the application of great force under anæsthetics to verify diagnosis is an uncalled for procedure, unless the patient insist on it. In consequence of the frequent errors and uncertainties attending the use of the Roentgen-rays, without other confirmatory evidence, their employment, when in doubtful osseous lesions, as a diagnostic agent, is totally unreliable.

Fifth.—The primary treatment of

closed intra-articular fractures, or those in close proximity to a joint, in general, must be recognized on these fundamental principles everywhere. In intra-capsular fractures at the hip, with proper aseptic precautions, primary resections of the distal fragment will abbreviate convalescence, spare the patient needless suffering, and leave a more useful limb than when the articular head is retained.

Sixth.—In a considerable proportion of aggravated cases in young or vigorous subjects, consecutive osteoplastic surgery will frequently effect most gratifying results. This is only resorted to after acute symptoms have subsided.—*Dr. Thomas H. Manley in Interstate Medical Journal.*

Surgical Hints.

In cases of delirium tremens, when the action of sedative drugs is apparently insufficient to obtain rest and sleep, a blister or a mustard plaster applied to the back of the neck often has an excellent effect.

Little children should never be operated on during very hot weather if the surgeon can choose his own time. They are very apt at this time, however carefully they are fed, to develop a severe form of intractable diarrhœa.

Atheroma of arteries does not contraindicate amputations so much on account of the danger of hæmorrhage as because, in these cases, the flaps slough easily owing to lowered vitality. Hence it is necessary to select the operation that will give the best blood supply [i. e., the operation of taking in a supply of bullock's blood].

It is better to discard carbolic acid entirely in the treatment of wounds in children. Not only do they develop gangrene very readily from its continuous effect in wet dressings, but fatal cases of poisoning have been known to occur from the application of so weak a solution as 1–40.

In any operations in which the muscles and fasciæ are divided, it is well to remember that these structures are apt to become further separated on account of the handling of the parts during the operation. Hence it is well, when suturing these structures, to pull the skin at the angles of the incision in order to make sure that no divided tissues extend beyond the limits of the original incision.—*Int'l Jour. of Surgery.*

The Value of Aluminum Bronze Wire in Surgery.

Pichler is authority for the statement that the above-mentioned metal has almost completely superseded silver wire in the famous clinic of Prof. Mikulicz. The reason for this is that aluminum-bronze has been found by experiment to possess higher germicidal power than the older metal, and hence is used where this virtue is of prime importance. Very interesting experiments were made in the endeavor to clear up this matter; dishes of culture medium were inoculated and in each was placed a piece of one of the the following metals: Silver, copper,

aluminum, aluminum bronze, brass, iron, magnesium and magnalium. Bacterial growth was most hindered by copper, aluminum bronze and silver, in the order named. *St. Louis Medical Review.*

Electro-Therapeutics

Edited by F. T. LAMB, M. D., Murphy Building, San Francisco, Cal.; Lecturer on Electro-Therapeutics, California Medical College.

A New Storage Battery.

Thomas A. Edison has invented a new storage battery which electricians say is the most important invention since Edison discovered how to make incandescent lamps, the lamps that give all the delightful glory to the exposition of the Americas now being held in Buffalo.

The announcement of the invention of this new battery is accompanied by intimations that indicate several fields are to be revolutionized by its introduction, for this new battery combines all of the long-sought advantages of durability, effectiveness and lightness. It is predicted that a new art of electrical propulsion and navigation will result. While the electrical accommodations of the people to-day are many and important, new features of usefulness are promised. Electric light will be cheapened, and it will be possible for electricity to win favor in many factories where the steam engine and its power reigns supreme. This battery is said to be a wonder, and it may be the instrument which will carry the stored energy of Niagara around the world. It may result in the force of the Falls of Niagara being shipped by the car load instead of being transmitted over miles and miles of cables as at present, to its fields of service. Many new applications of electricity are looked for, and there is little doubt but what this battery will do much for the advancement of electrical science during the 20th century. Its use will reduce the weight of automobiles, and make electrical features on ships more available. There is a possibility that its application to railroads will retire the present trolley system, a system that has been very efficient in affording rapid transit.

For over forty years the world has been hopeful of improvement in the storage battery. An enormous amount of labor has been expended, and capital unlimited has been used to effect the improvements recognized as essential ere the storage battery could become popular. Efforts of recent years have been directed to reduce the weight, but with little result until Mr. Edison accomplished his results. The great weight of the majority of the storage batteries of to-day has been a great

obstacle to their use, and for about twenty years these conditions have remained unchanged. Now, through the inventive genius of Edison, something different is promised, and never yet has Edison deceived the public as to the true merit of any of his inventions.

A storage battery is simply a reservoir in which electricity may be stored and drawn upon for the purposes for which electricity is generally used. It can be transported on a launch or an automobile or any other vehicle that travels over land or on water. When a battery is full it is said to be charged. Heretofore the storage batteries were very bulky and heavy, which naturally are serious drawbacks, but this new Edison battery changes all this and gives a wider range of usefulness to the invention. In the old battery there was a deterioration when used, and it is easily destroyed, but when Edison started out to solve the problem of the storage battery and develop a machine that had a higher efficiency he realized that a successful battery must possess absence of deterioration by work; large storage capacity, capability of being rapidly charged and discharged; capability of withstanding careless treatment, and it must be inexpensive.

The new battery is made up of cells known as nickel-iron cells, and the electrolyte is potash. The charging and the discharging rates of the cells are alike. The cells may be charged at a normal rate in three and a half hours, or it may be charged at the relatively high rate of one hour with no apparent detriment to the cells, except for a somewhat lower electrical charge efficiency. In other words, the cells do not appear to be injured by the overcharging or the discharging, and only suffer in electrical efficiency under such treatment.

Another advantage claimed for the cells of this new battery of Edison's is that they may be subjected to very low temperatures without danger of detriment. Moreover, the electrolyte-potash does not attack any of the ingredients of the cell, nor are any of the ingredients soluble therein. The battery is therefore theoretically indestructible. An instance of the indestructibleness of the cell is this: A cell was not only completely discharged, but it was recharged in the reverse or wrong direction, and after bringing it back to its originally charged current, the storage capacity remained unaffected. From this it would seem that the cell should be capable of standing much abuse.

The public is greatly interested in the development of the automobile industry, and it may be remarked that no recent invention will do so much to shove the automobile along the road to further popularity than this light, efficient battery of Edison's invention. — *Cleveland Medical Gazette.*

Notice.

THE AMERICAN ELECTRO-THERAPEUTIC ASSOCIATION will hold its Eleventh Annual Convention in Buffalo, on September 24th, 25th and 26th, 1901. Its headquarters will be at Hotel Niagara, and its place of meeting, at the Armory of the 74th Regiment.

GYNAECOLOGY

Edited by J. W. HAMILTON, M. D., Parrott Building, San Francisco, Cal.; Prof. of Gynaecology, California Medical College.

Treatment of Gonorrhœa in Women.

Gibson quotes a communication made by Janet to the International Congress in Paris. A recent gonorrhœa in the female may affect the urethra, the glands of Skene and Bartholin, the vagina, and the cervix uteri. At each examination one should discover which of them is affected, and apply the treatment accordingly. The urethra is irrigated with a cannula so constructed as to furnish a recurrent stream, with permanganate solution of the strength of ½ to 1 per cent. A short catheter may also be used to wash out and fill the bladder; the patient then passes the solution, and irrigates the urethra in so doing. When Skene's glands open outside the urethra, they are emptied by pressure and washed out with permanganate solution (1 to 300) by means of a syringe provided with a fine soft cannula; when they open into the urethra, the lips of the meatus are separated by a bivalve speculum, the openings of the ducts are searched for, and the glands washed out in the same way. Bartholin's glands are also emptied by pressure, and are washed out with the same solution. The vagina is irrigated with permanganate solution (1 to 2000) and the cervix is swabbed out with cotton-wool soaked with the permanganate solution (1 per cent). The permanganate may be replaced by protargol, in the strength of 2 per cent. for the cervix, 1 per cent. for the glands, and ½ per cent. for the urethra. —*Therapeutic Gazette.*

A Case in Which Sexual Feeling First Appeared After Removal of Both Ovaries.

A. L. Smith, of Montreal, reports the case of a woman, aged 26, married seven years, had never been pregnant, and had never menstruated. At her menstrual periods she had a leucorrhœa, the breasts and abdomen were swollen and painful, bowels constipated, and for two days in the month there was either total suppression or retention of urine. Although her characteristics were exceedingly feminine, she had derived no pleasure whatever from the sexual relation, but, on the contrary, had always suffered great pain. Both ovaries were low down and tender, and the right enlarged. Deeming the operation justifiable, the ovaries and tubes were removed by abdominal section. A few months later, when seen again, she stated that she now experienced the most ardent sexual desire, although

there were no signs of menstruation. Her husband confirmed the statement. There was no masculinization of her figure or character. The writer quotes Lawson Tait's statement that in cases of chronic ovaritis and adherent tubes such an operation will not unsex the patient, but, on the contrary, reinstate her in her sexual functions.—*St. Louis Medical Review.*

On Puerperal Infection.

A. Wadsworth, New York, gives a detailed study of several cases with especial reference to douching and the value of bacterial examinations. The streptococcus pyogenes is the most frequent and serious of the pathogenic bacteria associated with puerperal infection. The staphylococcus, bacterium coli communis, gonococcus, and bacillus aerogenes capsulatus are also important. A sufficiently accurate diagnosis may be quickly and readily made by bacterial examination. The simple vaginal douche, with possibly a few exceptions, is not even an aid to complete elimination of pathogenic bacteria, but, on the contrary, the natural protective resources of the vagina are impared so that these organisms are better able to establish themselves. Routine vaginal douching before and after labor is irrational, ineffective and may also prove dangerous. The uterine douche, like the vaginal, is insufficient and its indiscriminate use may do harm. In the toxemias which are not due to pathogenic organisms the results of uterine douching are immediate, effective and attended by little danger. In the intoxications and infections excited by pathogenic organisms the processes may be aggravated or disseminated by the douching, especially in the first days of the puerperium. The use of antistreptococcus sera in puerperal infections, where organisms other than the streptococcus are often present, is irrational, and ineffective. The indications and contraindications for curettage are practically the same as those for douching.

Double Ectopic Pregnancy.

G. H. Noble, Atlanta, Ga.: The patient was a white woman, aged 23, married six years, one child three years old. Six weeks before admission she complained of paroxisms of pain in the abdomen, rectum and back. She came in with a temperature of 99⅗, pulse 112, respiration 24, no pain, some headache, slight bloody flow from uterus, abdomen tympanitic, and tenderness around the uterus which was slightly enlarged. On each side of the uterus could be felt a boggy mass of considerable size. On incision considerable free blood was found in the abdominal cavity and the right tube, which was ruptured, contained an eight to ten weeks fetus. On the left side the rupture was small and blood was coming from the tube. It contained an ovum with an estimated period of gestation of four weeks. The recovery was unusually smooth. So far as the writer knows this is the first reported case of double ectopic rupture.

The Early Diagnosis of Ectopic Gestation.

A. F. Currier, New York, divides the symptoms which determine the diagnosis of tubal gestation into the ordinary and the extraordinary. The first are those which belong to gestation under ordinary or normal conditions; the extraordinary are those which are peculiar to this form of gestation. They should be regarded as confirmatory of the ordinary, and should teach us not only that gestation is present, but that it is present in a form which should excite alarm and call for immediate and radical methods of procedure. Certain conditions of the pelvic organs seem to predispose to tubal gestation, and their etiologic importance should be considered in arriving at a diagnosis. Such are retroflexion of the uterus, precedent tubal gestation, etc. Twisting or distortion of the Fallopian tubes, fixation by adhesions in unusual situations, inflammation of the tubal mucous membrane, have all furnished numerous examples of the possibility of tubal gestation in connection with abnormal conditions. The extraordinary signs are hemorrhage, pain, and the presence of a pelvic tumor. Of these, the first is by far the most convincing. It is seldom external or manifest. It is most likely to occur, and occurs most early, in those cases in which the seat of the gestation is the fimbriated extremity of the tube. Pain is not always present, is usually paroxysmal, sharp and darting. The presence of a tumor is best determined by rectal examination, and in most cases an anesthetic is essential. These three symptoms are the most important and the most constant of the extraordinary symptoms; if the diagnosis cannot be reached with these and the ordinary signs of pregnancy, the fault probably lies with the examiner.

Eye, Ear, Nose and Throat

Edited by H. BOSWORTH CROCKER, M. D., Auzerais Building, San Francisco, Cal.; Assistant to the Chair of Ophthalmology, California Medical College.

Peritonsillar Abscess.

This affection is believed by some to be caused by suppuration in the loose connective tissue around the tonsils, starting without any known cause. Others believe that it is a symptom of the rheumatic diathesis, while still others think, as does the author, that it results from infection by the germs of acute tonsillitis. It is always met with in conjunction with some tonsillar obstruction to the supratonsillar fossa. The consensus of opinion seems to be that it arises in the cellular tissue above, behind or, most commonly, in front of the tonsil; Chiari, however, believes that the abscess is formed in

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the pharyngo-maxillary space. This space contains the great vessels but is separated into two portions, an anterior and a posterior, by the stylopharyngeus muscle and its fascia. In the anterior portion, Chiari believes that the pus forms, and being unable to force its way backward on account of the resisting stylopharyngeus, pushes forward and inward until it makes its exit through the pillars usually in front of, but sometimes behind the tonsil. Diagnosis is usually easy after the first forty-eight hours, the familiar swelling of the soft palate and its one-sided appearance making a picture not easy to mistake. Pain, of short duration, and violent inflammatory appearances are strong characteristics. The cases which require most care in diagnosis are those in which the swelling has lasted some weeks without much inflammation or pain. The diagnosis between sarcoma of the peritonsillar tissue, syphilis and sub-acute peritonsillar abscess is sometimes difficult. Peritonsillar inflammation is not accompanied by ulceration in any part of the mouth or tonsil, while gummata or sarcomata are apt to be so associated. In chronic peritonsillar swelling some discharge of pus may be found on careful examination, while puncture, if other means fail, will give a clue to the diagnosis. The first symptom is usually a severe chill followed by fever and headache, and by pain referred to one side of the throat only. The pain throbs at first, but becomes sharper. Ear pain is prominent. Interference with respiration in adults is not usually so marked as in children, but deglutition is very painful. In bilateral peritonsillar abscess the ordinary appearance is of course changed, as well as the symptoms of pain and throbbing on one side. The evenly swollen palate presents no contrast; the uvula hangs in the middle line. When the tonsils are carefully examined no enlargement is shown beyond the pillars, and the pillars are nearer the median line of the pharynx than usual. The bilateral condition is very rarely met with.

Cases of untreated peritonsillar abscesses usually subside through rupture which commonly occurs between the pillars of the fauces. The duration is about seven days. The disease is usually self-limited, but there are several cases on record where the pus made its way into the posterior part of the pharyngomaxillary fossa, and so into the mediastinum with a fatal result. Thrombosis of the large veins and pyemia have also resulted.

When the patient feels an attack coming, resort may be had to quinine, opium and diaphoresis, on the same principle as is adopted to check a cold. Bosworth believes in the salicylates and other anti-rheumatic remedies, and gives large doses of 13 to 15 grains an hour of the salicylate of soda with a drop of tincture of aconite until the physiological effect of numbness and tingling of the finger-tips began to appear, when its use is permanently discontinued. Cobb, after trying the salicylates, believes that where swelling of the peritonsillar tissue exists, only the knife can give any relief, while the salicylates on account of their depress-

ing influence contribute to the exhaustion which always follows this very debilitating disease. When the swelling increases efforts should be directed to bringing the abscess to a head as quickly as possible. Hot water gargles repeated every hour are found as satisfactory as anything for this purpose. It is after the swelling is well under way, or three or four days following the onset of the disease, that the best work may be done in checking the abscess. At this time the surgeon often lances the anterior pillar without obtaining pus, and even when he is so fortunate as to find it the wound closes at once and the symptoms recur within a few hours with the same severity as before. In general it may be said that a deep puncture through the anterior pillar seldom remains open, while a shallow one not infrequently does remain open.

If swelling of the posterior pillar behind the crypts of the tonsil is present, it should be probed to make sure whether it fluctuates or is simply swollen and edematus. If fluctuation can be obtained, a puncture, practically painless with the application of cocaine, should be made; a cure results with very little discomfort to the patient. If the posterior pillar appears normal, there may be a slight bulging at the junction of the anterior with the tonsils, and a very little dissection under cocaine in order to separate tonsil and pillar, will give pus, which with a good sized opening will discharge continuously. If there are no signs of pus in either pillar, the supratonsillar fossa must be sought as the most probable seat of the suppuration. Here the knife must be used with care, as cases of death are on record from injury to the great vessels which lie in the pharyngomaxillary space. If penetration of the posterior pillar, after traversing the abscess be avoided, there is no danger of injuring the great vessels. The tonsillar arteries enter at the base of this organ, and may be avoided by passing between the pillar and the tonsil. If pus is not found in either anterior or posterior pillar, the supratonsillar fossa should be entered, care being taken not to penetrate back further than the posterior pillar. If pus is obtained a wider opening through the tonsil may be secured. Cocaine should be employed, submucously or otherwise, to make the procedure as painless as possible.

Treatment of Sciatica.

MANEGA (*La Semaine Medicale*, 21 an., No. 9) has published a case of hemiplegia associated with agonizing pain of the paralyzed leg which was cured, and permanently, by one subarachnoid injection of cocaine. Encouraged by the success attending this case, Pulle treated in a similar way a case of sciatic neuralgia which had failed to yield to the ordinary medicaments —0.75 cubic centimeter of a two-per-cent. cocaine solution was injected. Pain disappeared at once and finally.

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A Review and Digest MEDICINE and SURGERY.

The Sensible View of Marriage.

We hear young men say, "I am too poor to get married," and girls, "The man I marry must be rich." These remarks appear harmless, and they may have a certain business shrewdness behind them; still, the larger truth is that the speakers most often do not take an honest view of marriage, no matter how honorable may be their purposes. Money cannot insure happiness, and long experimenting in the countries of Europe has shown that mating for wealth is the sure road to lax and immoral domestic economy.

It would seem that the sensible view to take of marriage is that it consummates life for the poor and the rich, the vulgar and the refined; that no single life is the perfect life. The future of mankind depends almost wholly upon happy marriages and healthy offspring. And this suggests that there should be no marrying of unsound people. Greater selfishness cannot be imagined than that which brings children into the world doomed to a life of unmitigated misery, the hereditament of those who bear their parent's burden of disease.

Shall we say that questions arise in this connection too delicate for discussion with young persons? Is it better to leave the discussion to be raised after it is too late?

The sensible view of marriage is the view that comprehends every consequence. To the young people looking forward to a long and happy wedded life it is of vital importance that no element of the subject shall be a mystery, that nothing connected with the matrimonial venture shall be left to the hazard of chance.

Parents must understand that their children are to be parents, that there is no escape from the resp nsibility, and that education is incomplete and training inadequate which does not qualify for maternity and paternity. The young man and the young woman who are fitted for marriage are fitted for all that a healthy, courageous and happy life demands or imposes.—*Health.*

The Use of Hot-Water Vaginal Injections.

J. H. Burtenshaw, New York, states that no therapeutic measure is so frequently misapplied, so thoroughly abused, so imperfectly understood as the hot water vaginal injection. The cause of failure to obtain any beneficial results from this method of treatment in nearly all cases can be attributed to failure on the part of the physician to give the patient explicit directions as to the details of the douche. The use of two-quart hot water vaginal douche should be for the cleansing purpose only. This quantity of water will pass through a fountain syringe, to which an ordinary tube and vaginal nozzle are attached, in two minutes. Such a brief application of heat can only add to the congestion that is already present in the pelvic vessels, and therefore does great harm. The

patients should be instructed as to the minutest details to be observed in taking the douche, and should always use at least three gallons of plain water as hot as can be borne (at a temperature of from 107 degrees to 120 degrees F.), for each douche. Such a douche is of special value in cases of acute or chronic metritis, in subinvolution, in perimetric inflammation, and in perimetric and parametric exudations. A troublesome leucorrhea, in many cases, will be checked after a very few applications of the douche, due to the consequent toning up of the vaginal and uterine mucosa. If the leucorrheal discharge is profuse, a tablespoonful of the following mixture may be added to the last quart of water remaining in the douche bag at the termination of the injection: Powdered alum, zinc sulphate, sodium biborate, carbolic acid, of each one ounce, and water six ounces. Bichlorid of mercury, lysol, creolin, or other antseptic agents, even in weak solutions, with the sole exception of weak carbolic acid, should never be employed constantly in the ordinary therapeutic douche.

I have very little confidence in the utility of the pessary, and in topical applications in gynecological practice. Their use has been very much abused. I do think they have been a curse to the profession and womankind. I do not pretend to say that in no case will a pessary do good, nor do I pretend to say that there is no case where a topical application of iodine or carbolic acid will do good, but I do believe that the cases are exceedingly rare, and this practice of having females visiting the office of physicians week after week, and month after month, for the purpose of having the cervical canal touched with iodine, tincture of iodine, and carbolic acid, a glycerine tampon introduced, followed then with a hot water douche, is unscientific and unproductive of any good results. What is true of these applications is likewise true of other drugs used for the same purpose, e. g., nitrate of silver. I have not myself used in my practice a pessary for more than two years, and I doubt if I ever use one again.—*J. W. Andrews.*

Notes.

Some cases of acute rheumatism are better treated with salicylic acid than with salicylates. It may be applied locally in the form of a ten per cent. ointment, once or twice a day, over affected joints.

Could we be assured of a certain standard of strength, which can only be done by assay, we would find cannabis indica one of our most efficient nerve calmatives. It is not calculated to displace opium in cases of severe pain, but where nervousness and anxiety cause insomnia this drug is most excellent.

For night-sweats in those suffering from wasting disease the fluid extract of geranium, in twenty to thirty drop doses every three hours, often proves of great benefit. It also checks diarrhœa, which is often very troublesome in the same cases.

If creasote disagrees with the stomach

of your phthisical patient, try pure guaiacol. The appetite which has been entirely lost through the use of creasote may be entirely restored in a short time by using the guaiacol in five drop doses every three hours. If the pure guaiacol is not well borne, try the carbonate in five to eight-grain doses four times a day.

In whooping-cough a few single drop doses of tincture of lobelia will generally give relief from the spasmodic cough. It is best not to add this drug to a cough prescription, but to give it separately as it seems to be indicated. It may, however, be given with the dose of a cough syrup if required, but should not generally be continued for long at a time.

Some cases of malarial fever in which quinine does not produce good results yield readily to some other of the cinchona alkaloids. Quinidine should be next tried, its antimalarial powers exceeding quinine in some cases —*St. Louis Clinique.*

Extraordinary Fecundity.

One of the Italian journals has recently recorded an extraordinary case of fecundity of which it guarantees the authenticity. Flavia Granata, who it appears is well known at Rome, has recently given birth to her sixty-second child. This woman is now fifty-nine years old. She was married at twenty-eight years of age, and has successively given birth to a daughter, then six sons, then five sons, then four daughters, and then a long series of twins annually, and ended recently by having four sons. It is much to be regretted that this interesting woman did not marry earlier, as she thus lost ten precious years of her life, and so missed the distinction she might have enjoyed of being the mother of a hundred children.—*Medical Age.*

Some Medical Aphorisms.

The following more or less sensible aphorisms are going the rounds of the medical press: (1) Life is short, patients fastidious, and the brethren deceptive. (2) Practice is a field of which tact is the manure. (3) Patients are comparable to flannel, neither can be quitted without danger. (4) The physician who absents himself runs the same risk as the lover who leaves his mistress; he is pretty sure to find himself supplanted. (5) Would you rid yourself of a tiresome patient, present your bill. (6) The patient who pays his attendant is but exacting; he who does not is a despot. (7) The physician who depends upon the gratitude of his patient for his fee is like a traveler who waited upon the bank of a river until it would finish flowing that he might cross to the other side. (8) Modesty, simplicity, truthfulness!—cleansing virtues everywhere but at the bedside; there simplicity is construed as hesitation, modesty as want of confidence, truth as impoliteness (9) To keep within the limits of a dignified assurance without falling into the ridiculous vauntings of the boaster, constitutes the supreme talent of the physician. (10) Remember always to

appear to do something—above all when you are doing nothing. (11) With equal, and even inferior, talent, the cleanly and genteelly-dressed physician has a great advantage over the untidy one.—*Dietetic and Hygienic Gazette.*

Appendicitis at Squawville.

Poker Johnson got a droopin' in a most peculiar way,
Sot around the jag emporiums half a-sleepin' every day;
Didn't have a durned ambition nor a impulse 'cept to snooze
An' occasionally brighten his vitality with booze.
When we'd ask about the trouble he would say he didn't know
What the dickens was the ailment a collapsin' of him so.
An' his woman got oneasy that he'd fly the mortal track—
Got a askin' other wimmin if she'd look all right in black.

Dr. Slaughter diagnosed him, but he couldn't quite decide
What disease he'd ort to call it, so he sent to Telluride
For a medico to hold a consultation on the case
An' endeavor to diskiver what had knocked Poke off his base.
In their skilled deliberations they agreed without a doubt
That his uniform appendix was a knockin' him out,
An' to place him in position fur to hold a cinch on life,
They would have to go prospectin' fur the trouble with the knife.

Not havin' anesthetics, they jest filled him full o' booze
Till his sensitiveness vanished in paralytic snooze,
An' they both was somewhat startled when they laid his innards bare
Fur to find that the appendix they was huntin' wasn't there!
Then they thought it was his liver, an' they tuk a peep at that,
But 'twas healthy, an' his heart was not degeneratin' fat;
An' they monkeyed with his stomach an' the organs 'round about,
But they couldn't find no ailment that demanded cuttin' out.

When the coroner came over fur to sit on what was left
Of the mangled late lamented, an' to sort o' feel heft
Of the evidence submitted, he had deemed it wise to bring
A medicinary expert to investigate the thing.
After hearin' all the symptoms, an' a lookin' 'round inside
Of the physical construction of the corpse, he testified
That the trouble was spring fever, an' he'd lost what life he had
Through a brace of ancient butchers chasin' up a modern fad.

—*Denver Post.*

Physicians' Strikes.

We have long wondered when physicians, irritated by a hundred forms of popular ingratitude, would go on strike. While laboring heroically to prevent disease and thus committing

professional suicide, we are constantly maligned, the lowest kind of protection is generally denied to us by the law-makers and Government-protected quackery flourishes. But according to the proverb, even the worm will turn; and it has turned in Germany. The Sickness Bureaus (*Krankenkassen*) are the intermediaries whereby about 30,000,000 people obtain practically free medical service—of course at the expense of the profession. When the bureaus made the physicians into slaves by all sorts of demands, at about 15 cents a call, or $75 a year, most naturally there was "a strike," or what the newspapers call a recurrence of the old question of "recognizing the Union." Fifteen cent. fees for cases of obstetrics, or operations, was more than human nature, even of the long-suffering bureaucratic German type, could endure. The strange thing in all these cases is that the public does not recognize that the service obtained by such methods and prices can hardly be called medical. How can therapeutics be possible under such conditions? Physicians would be more than human that could keep such ludicrous relations from vitiating into extremes of abuse and degradation. It is as poor financial policy for the patient as for the doctors. We wish that the charges of "medical monopoly" by the hate-filled "antis" were truer or more possible of realization among us.—*American Medicine.*

A sensation of soreness in the bones of the feet is said to be a reliable indication for salicin.

College, Alumni, Personal

The twenty-fourth annual term of lectures will begin October 7th. The announcement will be mailed upon request.

There have been several changes made in the faculty and it is intended to largely increase the number of lecturers when the new buildings are completed. There is every reason to believe that this will be the last course of lectures given at the present location. To this we say Amen! But don't wait for the new buildings. We need students now and can teach them just as much and as well. Remember that the greatest of all modern scientific schools was that of Prof. Agassiz. The lectures were given in a cheerless barn, on the bleak ocean shore, but the students of Agassiz are now college presidents and scientists of universal fame. If our students are the right sort, they will learn what they came for despite our disadvantages. We are prepared for a class of *one hundred* new students. Whether we get them or not depends upon how much *you* are helping. Its not the "other fellow's" business. It is yours, just as everything connected with California eclecticism is yours, and affects you to some dedegree; more students mean more eclectics, and more eclectics mean more strength. If you send one student you add just that much to your own power. "In unity there is strength" is very true, but there must be numbers before there can be unity of any value.

Dr. E. C. Bond, '99, is at Sierraville. There is room for a good man at Downieville. Also at Weaverville, and Anderson, Shasta Co.

Dr. J. W. Hammond, '97, was in the city recently. He reports a good business at Byron, where he has been located for some time.

Dr. C. Z. Ellis, '91, is now located in Berkeley. Dr. Ellis will lecture upon Minor Surgery, in the College, next term.

The last meeting of the Eclectic Board of Examiners was held at the Secretary's office, on the evening of July 30th. After the business was concluded and the official seal affixed for the last time, the members adjourned to a neighboring rotisserie, and around the festive board made merry until a late, or rather an early, hour. Through each post-prandial speech there ran a vein of sadness. Not that any present considered that the change could result other than in greater good and harmony among California physicians, but the associations of many years are not severed without some feeling of sincere regret.

Dr. F. G. Fay, of Sacramento, was in the city recently. In company with other members of the State Board of Health, he has been on a tour of investigation and inspection of the various State institutions.

Dr. L. A. Perce, of Long Beach, was in attendance at the organization of the new State Board of Medical Examiners on which he and Dr. G. G. Gere are the eclectic representatives.

Dr. L. H. Francis, '97, of Newville, Glenn Co., was in the city recently. He accompanied a patient here for operation.

Dr. Frank Cornwall has been absent in Lake Co. on a hunting expedition. He was one of a party of professional and business men and was the guest of Dr. W. H. Fearn, '92, at his beautiful mountain home, near Lakeport. We forget the exact number of deer killed by the party, but we will give Dr. Cornwall credit for one *big* fellow, which ought to satisfy one who is more accustomed to "sighting" an opthalmoscope than a rifle.

Dr. W. A. Harvey, '88, has also been trying his luck with the rifle. We are unable to make an authentic report. Ask him about it.

Mrs. E. H. Retsloff, '03, has gone to San Salvador with her sons and will probably not return to college for a year.

Dr. A. A. Guglieri, '01, visits Redwood City every day and may locate there permanently. He has a fine property near that place and is planning a resort for convalescents.

Miss M. D. Holcomb, '04, is at present enjoying a trip to China and Japan. She will return in time for college in October.

Dr. Geo. W. Harvey, '94, was down from Watsonville recently with a patient for operation.

Dr. A. P. Baird, '01, is at Susanville, is well satisfied with his prospects and will soon be joined by Mrs. Baird.

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Editorial.

The University Idea.

We have long felt that the university idea could be applied to medical institutions to the advantage of all concerned. In the present condition of affairs the study of medicine is incomplete and the graduates are narrow, bigoted and intolerant, or else weak with the knowledge of their own incompetence. The individual who is unable to see good in every school or system of practice is too narrow-minded to enter or continue the practice of medicine. As an eclectic, the writer feels free to present a few thoughts which may tend towards a better, broarder and truer medical education, in the hope that these ideas may result in good at some future time. No system of practice is complete. This is admitted by all men who are sufficiently intelligent to be honest. No practitioner confines himself to the teachings of his particular "pathy." Why, then, should our students, the medical men of the future, be taught only the medication which may be correct according to the ideas of the founders of our various medical colleges? It has been stated that the "old school" teaching embraces all of the modern and ancient medical learning. We do not believe that any intelligent physician can conscientiously make such an assertion, but if one did, would it be any more ridiculous than the extravagant claims of some homeopaths and eclectics who allow their zeal to blind them to the short-comings and failures of their respective systems? We think not.

Now, if we honestly acknowledge (as we all must) that no system of medication, and no materia medica, is complete and all-sufficient for the treatment of human ills, would it not be sensible to establish our colleges on such broad foundations that students might acquire a working knowledge of all three systems. If in addition to this, special courses (elective) were given in psycho therapeutics, electrotherapeutics, osteopathy and hydrotherapy, we might then be said to be graduating true physicians. It is not meant that every student should take a complete course in all three systems. That would be impossible in four years' time. But it could be so arranged that the student should be required to

complete the work in one department of therapeutics, and in addition some lectures in each of the other two. This university system is possible, and it is practicable because it is right. It is what the people want; it is what the student needs.

This idea should be taken up by the "old school" colleges, but it will not be. The eclectic, the American school of medicine will be first to take the step. The "regulars" will never accept anything from an "irregular" source directly, but as broad-minded, untrammeled, progressive Americans, we eclectics can do a great work. All honor to the founders of our system of specific medication; all honor to Hahnemann and his followers, but more worthy of honor and undying fame are the men who first establish a medical college, the graduates of which shall be possessed of *all* the medical knowledge which can be given them. We do not wish to be-little the work in the past. There will always be "new" schools which will gain some prominence for a time and then be forgotten; but every new system adds something good to our previous knowledge, and this good can be readily incorporated into the teachings of the established colleges, thus effectually solving the problem of "school" which has done so much to retard the progress of medical science.

We expect criticism of this idea and we invite it. We do not expect even our eclectic contemporaries to agree with us. Some people will never be able to think of "anything but past glories." The university idea has come to stay. The medical college which embraces it, will be the college of the future, and if we read "the signs of the times" correctly, that future is neither dim nor distant.

A New Serum.

About one year ago we began, in our feeble way, to inject a little "anti-rust" serum into the California eclectics. It seemed almost without results at first, and there was an alarming rise in temperature in some cases. But by perseverance and assurance that all would come right in the end, we succeeded in persuading the refractory brothers to continue treatment. From very small doses in the beginning the quantity was gradually increased until the "rust" began to disappear slowly. During the past month a careful examination of our patients shows us that so perfect has been the action of this new prophylactic, which has also proven itself to be an antidote, that we are now justified in reporting a perfect, and we hope a permanent cure, in all but a few cases which form a very small percentage of the several hundred who received treatment. Even these few stubborn cases we are hopeful of eventually being able to report as cured. We have been much aided in these treatments by some members of the Alumni of the California Medical College, and we wish to express our gratitude at this time for their assistance which has been invaluable. Only the fear of doing an injustice to our able co-workers by omitting some name, pre-

vents us from particularizing in this connection. The "rust" is now removed, or if not entirely removed in some cases, it bids fair to disappear under friction combined with proper lubrication. Now the time approaches when the machinery will begin to move. Already there have been a few preliminary revolutions and everything is harmonious. Slowly the power will be turned on, and with gradually increasing speed the work of this machine of California eclectics will be accomplished. The product, the result, the reward of all this patient, constant, hopeful work will be a *new* California Medical College building, complete, commodious and creditable. Every eclectic on the Pacific Slope is invited and expected to help in this work. It is a large undertaking, but like the snow-ball which the child first shapes in his hands and which increases to immense proportions by the cohesion of snow as it is rolled about, this project can be carried to a successful terminatlon from its small beginning. The nucleus is here, it can only become great by the addition of like material gathered from all interested parties.

At each meeting of the eclectics from this city and the suburbs there has been an increasing enthusiasm and through the work of various committees, estimates of the probable outlay have been furnished. The start has been made and now we must all help to keep the ball rolling. It will roll easier as it grows larger. We do not care to give great publicity to the details of the plan which has been agreed upon. Every eclectic on this coast whose address is known will be kept informed, through letters, of the progress, and it is especially requested that every reader who feels any interest in the matter should inform us of his present location. It is our desire that every western eclectic should have an *actual* interest in the new buildings, and if every one of our readers will speak of the matter to his neighboring practitioners who may not be a subscriber, requesting him to send us his address it will in a measure preclude the possibility of some one being overlooked. The name of every eclectic will be kept on file, and reports will be sent regularly as the work progresses. We want the ideas of every graduate of an eclectic college, because this is not a matter which concerns only a few. You are all interested, and any suggestions will be brought before the meetings which are being held each week. Let us hear from you. Are you with us or must we prepare some more "serum?" We would be glad to know your present condition.

Special Notices.

The September Smart Set.

The September number of *The Smart Set* fully sustains the reputation of that fascinating magazine for vivacity and cleverness. The number opens with an amusing novelette by Caroline Duer, entitled "A New Bonnet for Mary." The adventures of the ingenuous and unconventional heroine, a

society heiress, who assumes to be a dressmaker's assistant for sweet charity's sake, and dramatically assists in the recovery of a large quantity of stolen gems, are diverting to a degree. Doctor, you can get a sample copy of this clever magazine by addressing the Ess Ess Publishing Co., 1135 Broadway, New York.

Going to Oregon?

In Salem, the capital of Oregon, the population of which is 14,000 (including suburbs), Dr. W. S. Mott has an established practice of twelve years, worth $5,000 annually, of which $3,000 is cash. More than half is office practice, not ten per cent of it out of city. He offers to thoroughly introduce, and as far as possible turn this practice over to a successor who will purchase his office and heaviest household furniture together with part of his real estate, consisting City residence property and timber land (560 acres) forty miles from Salem within half a mile of R. R. and river, at its present cash value or less, if ALE is taken. Must sell anywhere from $3,000 to $10,000 worth of real estate. Reason for selling—to accept a position and do special work in another city.

SPANDWAY, WASH., April 5, 1901.

Editor Journal:

I am tired, and can afford to take a rest. I will drop some bright young man into my place, if he will allow me to retain a small interest. There is no opposition. Yours, etc.,

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E. E. E. care of Journal.

Publisher's Notes.

Collective Investigation of the Influence of the Silver Nitrate Injections on Phthisis.

To the Members of the Medical Profession:

In 1892 the undersigned began a collective investigation of the action of cold in the treatment of acute pneumonia and there is reason for believing that this procedure which resulted in gathering four hundred cases of this disease thus treated, with a death rate not quite five per cent., was an important factor in calling attention to the utility of that treatment, and in introducing it to the profession of this country. That research was based on the conviction that no remedy can be called truly successful until it has passed the exacting crucible of clinical experience, and it is now proposed to apply the same ordeal to the silver-injection treatment of phthisis, which, in a large hospital, dispensary and private practice, reaching over a period of three years, and during which many thousand injections were administered, has given me greater satisfaction than any other method that I have ever employed. In keeping with the above expressed feeling, a cordial invitation is herewith extended to those members of the profession who have the inclination and opportunity to investigate this method of treating phthisis and

to whom a reprint on the subject with full information and blanks to report cases, will be cheerfully sent on application.

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Our readers will find in this issue the announcement of a new remedial preparation, viz: "Antikamnia and Heroin Tablets," each tablet containing $\frac{1}{12}$ grain Heroin Hydrochloride (muriate) and 5 grains Antikamnia. All members of the medical profession should familiarize themselves with this combination and we respectfully advise our readers to look up the advertisement and send for samples. The advantages of this tablet are fully illustrated by a report of cases submitted by Dr. Uriel S. Boone, Professor of Pharmacology and Surgery, College of Physicians and Surgeons, St. Louis. We reprint three

of said cases, as each has some particular feature which successfully called into use in a most beneficial manner, the synergetic action of these two drugs:

Case I. J. P. Athelete. Suffering from an acute cold. On examination found temperature 101° with a cough and bronchial rales. Patient complained of pain induced by constant coughing. Prescribed Antikamnia and Heroin Tablets, one every four hours. After taking six tablets, the cough was entirely relieved. Patient continued taking one tablet three times daily for three days, when he ceased taking them and there has been no return of the cough or pain.

Case II. Ed. H. Age 30. Family history—hereditary consumption. Hemorrhage from lungs eighteen months ago. His physician had me examine sputum; found tubercle bacilli. After prescribing various remedies with very little improvement, I placed him on Antikamnia and Heroin Tablets, prescribing one tablet three times a day and one on retiring. He has since thanked me for saving him many sleepless nights and while I am aware he can never be cured, relief has been to him a great pleasure and one which he has not been able to get heretofore.

Case III. Wm. S. Age 28. Lost 25 pounds in 30 days. Consulted me July 9th. I thought most certainly he would fall victim to tuberculosis. Even temperature 101° with night-sweats and very troublesome cough with lacinating pains. Prescribed $\frac{1}{100}$ gr. atropine to relieve the excessive night-sweats and one Antikamnia and Heroin Tablet every four hours, with the result that he has entirely recovered and is now at work as usual.

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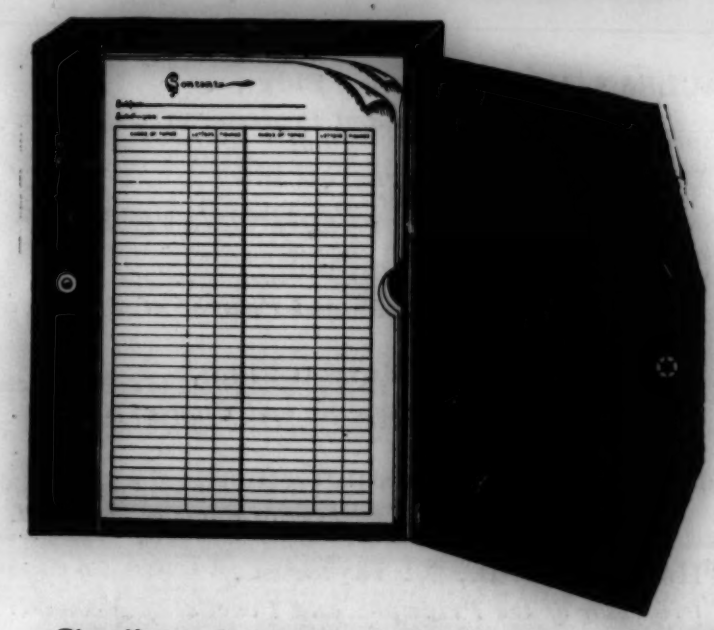
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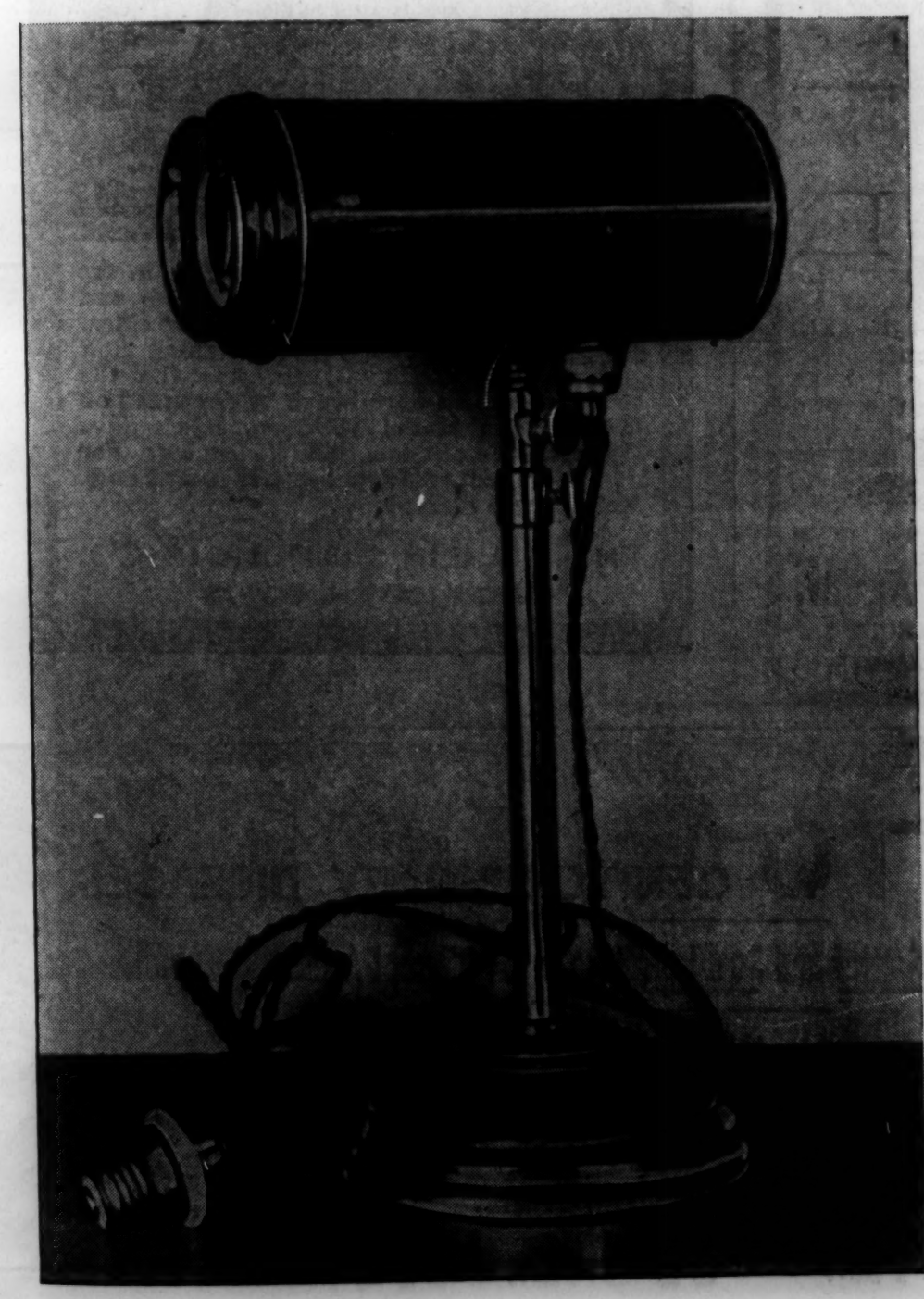
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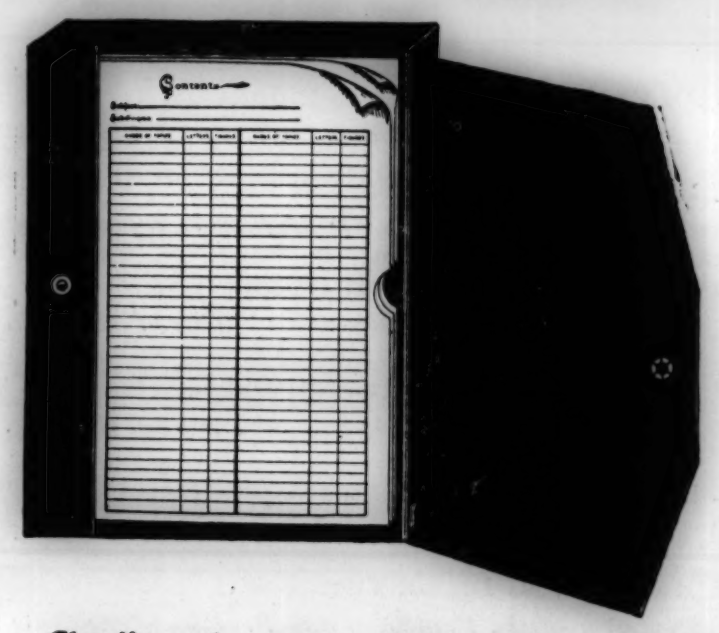
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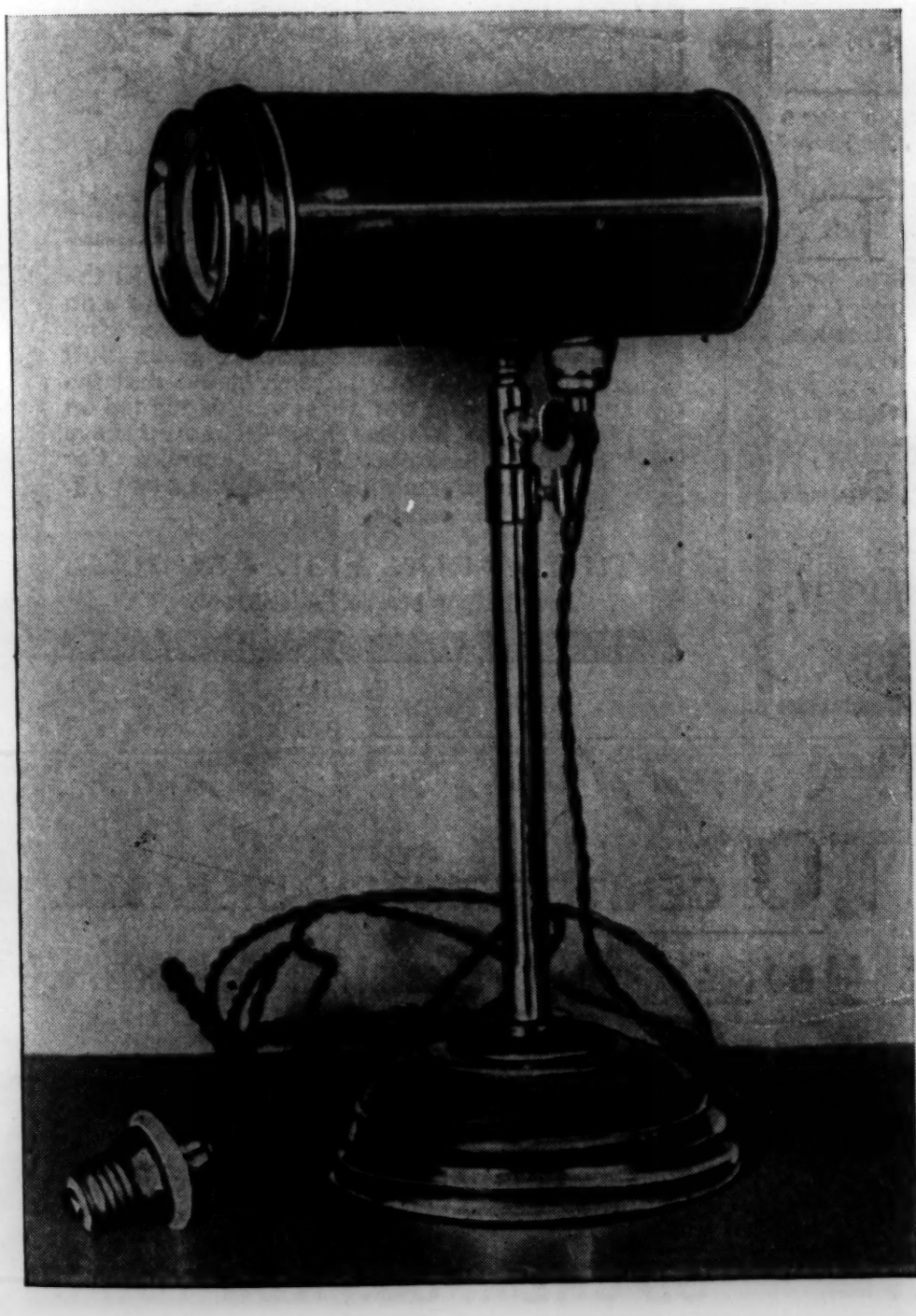
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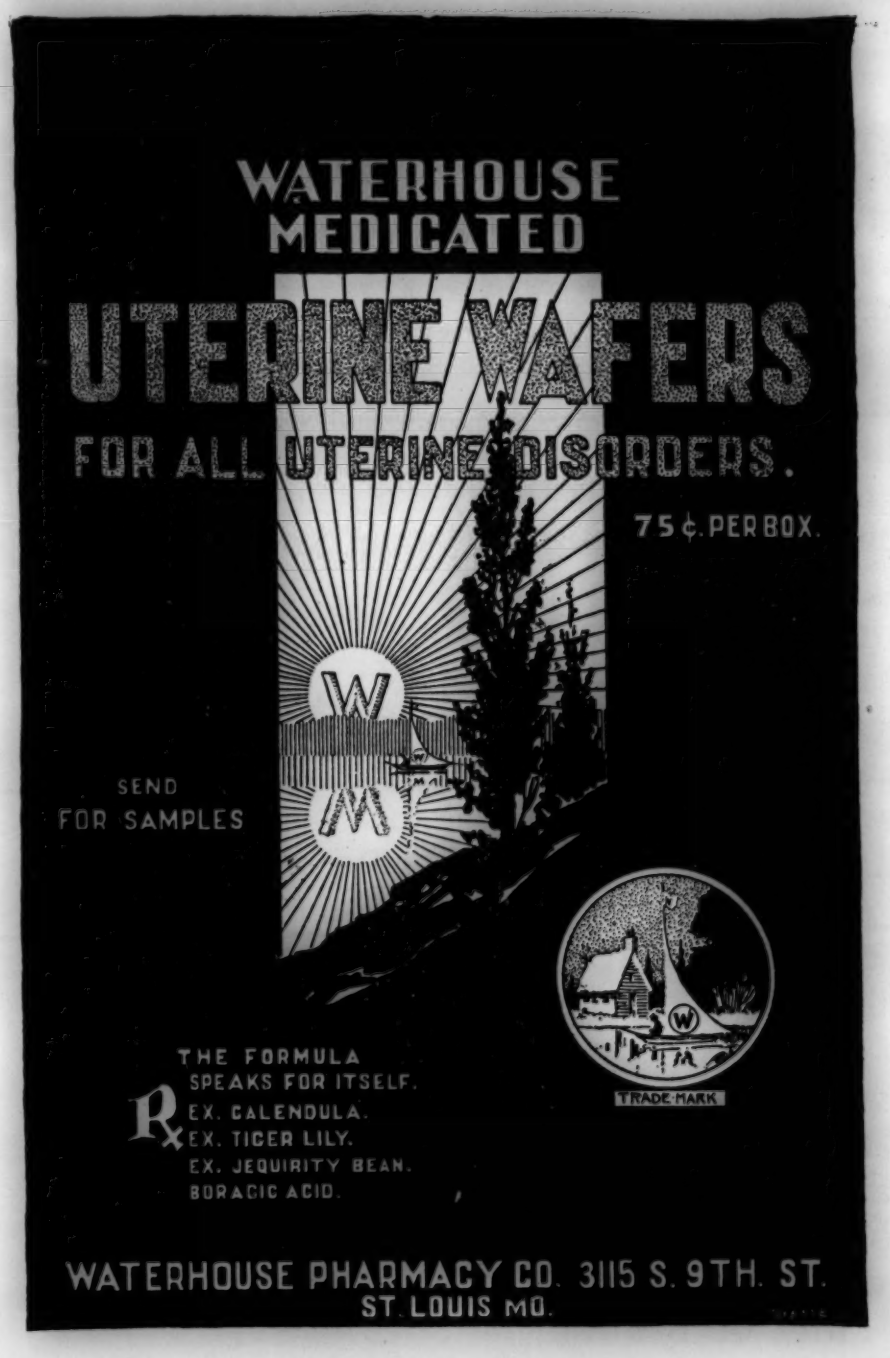
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"During the recent summer, I believed I saved the life of a little negro boy by the use of Echafolta and this remedy alone. He was al out four years old, and his surroundings were of the most unsanitary character and his nursing the poorest imaginable. In spite of these unfavorable conditions he recovered after an exhaustive disease lasting more than two months. The trouble began very much like a case of continued fever, but of a low type. He continued to get worse and about the second week experienced an alarming condition approaching collapse. The heart action became very feeble and intermittent. Following this depression came an exhaustive diarrhea of a choleraic character. I easily controlled this diarrhea with rhus aromatica. At this juncture septic infection became evident and the lungs were involved with a pneumonia of quite pronounced severity. I then began administering ten-drop doses of Echafolta. This had the effect of mitigating the symptoms considerably, and in a few days his condition was so much improved that I stopped the remedy, and then the symptoms became greatly aggravated. I again resumed the Echafolta, when a complete change for the better took place, but it was followed by another profuse diarrhea and I discontinued the Echafolta and again controlled the diarrhea with rhus aromatica. At this stage of the disease (third week) circumscribed, inflammatory swellings appeared on various parts of the body. These were sluggish, and, at first, quite painful, but soon developed into abscesses and would break spontaneously, discharging a sanious and offensive pus. The abscesses continued throughout the course of the disease (tén weeks) and numbered at no time less than six, appearing chiefly near the joints, on the neck, in the groin, on the back and one on the scalp. Feeling convinced at the time that Echafolta was the only remedy administered that seemed to hold the disease in check, I put him on ten-drop doses every three hours and kept him on it until complete recovery took place. From what I observed in this case I believe that the boy could not have lived without the remedy, for whenever it was discontinued he became alarmingly worse, and whenever it was resumed, his condition became better so promptly that I could attribute it to no other cause. The boy to-day is strong and hearty and shows no ill effects of his serious illness."

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